REMARKS

1. Amendments to the claims

Claims 1, 3-6, 10-11, 14, and 18-22 are pending in the application. With the present response, Applicants amend claims 1 and 20 and add new claims 23 and 24.

Support for amended claim 1 can be found, for example, on page 4, lines 1-21, and from page 8, line 5, to page 9, line 11, of the application as filed. Support for amended claim 20 can be found, for example, from page 9, line 13, to page 10, line 9, of the application as filed.

Support for new claim 23 can be found, for example, from page 10, line 13, to page 11, line 24, of the application as filed. Support for new claim 24 can be found, for example, from page 10, line 13, to page 11, line 24, and from page 15, line 10, to page 16, line 7 of the application as filed.

All amendments are being made without prejudice. Applicants reserve the right to reintroduce the combinations of features claimed in the original claims or to add additional claims either later during prosecution of the present application or in applications related to the present one, like continuation, divisional and continuation-in-part applications or any other related applications.

2. 35 USC 103 (a)

2.1) In the Final Action mailed July 20, 2011, the Examiner rejects claims 1, 3-6, 14 and 19-22 under 35 U.S.C. 103(a) as being unpatentable over Magnitski et al. (US 6,522,616) in view of Glushko et al. (US 6,291,132) and further in view of Bawendi et al. (US 6,774,361).

In addition, claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magnitski in view of Glushko, and further in view of Bawendi, as applied to claim 1 above, and further in view of Metz (US 5,166,813).

Claim 11 is further rejected under 35 U.S.C. 103(a) as being unpatentable over Magnitski in view of Glushko, and further in view of Bawendi, as applied to claim 1 above, and further in

view of Wenzel et al. ("Shaping nanoparticles and their optical spectra with photons," Applied Physics B 69 51 3-51 7).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magnitski in view of Glushko, and further in view of Bawendi, as applied to claim 1 above, and further in view of Fuller et al. ("Ink-Jet Printed Nanoparticle Microelectromechanical Systems," Journal of Microelectromechanical Systems, Vol. 11, No. 1, February 2002).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glushko in view of Bawendi.

2.2) In particular in relation to claim 1 and to Magnitski, the Examiner states that **"**Magnitski discloses having more than one pit on the disc. If each pit has a combination of colors and gray levels, the pits differ from each other in color and shade, and therefore meet the claim language.**"**

Applicants disagree for the following reasons.

Magnitski indicates the use of different colors and/or gray levels which are provided within a single pit. In fact, Magnitski discloses that "[t]he information density is defined by the size of the pits in each page 15, which is limited by optical resolution. [...] It is possible to use different dyes with different colors or different frequencies of exciting light for increasing data density. [...] For 20 gray levels and five colors, close to three bytes can be stored per pit" (see column 3, line 58, through column 4, line 9 of Magnitski). (emphasis added)

If follows that Magnitski only discloses a combination of colors and gray levels within one pit location without any comparison among pit locations.

Differently from the Examiner's opinion, Applicants respectfully submit that a disclosure of a combination of colors and gray levels within one pit location does not mean that "*the plurality of distinct data pit locations differ from each other for at least one of said two or more different colors*".

In fact, in Magnitski, information density is only strictly based on the size of the pits (as emphasized above) and on the number of colors and shades in a pit, i.e the number of colors and shades that can be housed in the pit.

2.3) The Examiner states that "Applicant next argues (section 2.3) that the newly amended language of claim 1 wherein "a number of said distinct data pit locations is related to a number of said two or more different colors" is not disclosed in the references. All this language says is that the density of the data pits depends on the number of colors: if there are more colors, the medium is higher density; if there are less colors, the medium is lower density.

Applicants disagree for the following reasons.

The feature "*a calculation of a number of said distinct data pit locations is based on a number of said two or more different colors*" as now recited in claim 1 does not mean that "if there are more colors, the medium is higher density; if there are less colors, the medium is lower density", as argued by the Examiner.

The feature "*a calculation of a number of said distinct data pit locations is based on a number of said two or more different colors*" means that the number of pit locations is calculated based on the number of colors, such that the higher the number of different colors among different pit locations, the lower the number of different pit locations. In other words, the number of different pit locations used for storage data is calculated on the basis of the number of different colors and therefore a "*reduc[tion]*" of "*a space occupied by said data pit locations in the data storage medium disk*" can be obtained.

Following the Examiner's reasoning, this means that if there are more different colors among pit locations, the physical "*space occupied by said data pit locations in the data storage medium disk"* is reduced.

2.4) The Examiner further states that "[T]his is clearly stated in Magnitski. Magnitski not only discloses that more colors increases the density, but also discloses a specific example and indicates the number of bytes per pit. It is of course inherent that if a medium is higher density, it requires less data pit locations to store the same amount of data, which appears to be the intent of applicant's claim language."

Applicants disagree for the following reasons:

The concept of "higher density" does not implicitly correspond to the concept that a number of pit locations is calculated on the basis of or is related to the number of different colors (see again the recitation of newly amended claim 1 , "*a calculation of a number of said distinct data pit locations is based on a number of said two or more different colors*").

In fact, as already reported above, Magnitski recites that "[t]he information density is defined by the size of the pits in each page 15". (see column 3, line 58, through column 4, line 9 of Magnitski). Therefore, Magnitski appears to connect the concept of "higher density" to the concept of larger size of the pit.

In addition, differently from the Examiner's statement, the newly amended language of claim 1 wherein "*a calculation of a number of said distinct data pit locations is based on a number of said two or more different colors*" is concerned with an option to exploit all combinations of different colors in the pit locations, and therefore to reduce the number of pit locations/space occupied by the pit locations strictly on the basis of different colors of the different pit locations (see the wording *"to reduce a space occupied by said data pit locations in the data storage medium disk"* of newly amended claim 1).

In addition, Applicants submit that, differently from Magnitski, this feature is strictly related, in the present application, on the use of nanometer sized particles. In fact, in view of the use of the claimed "*nanometer sized particles*", many differently colored nanometer sized particles can be embedded in a single pit. Therefore, not only a space occupied by said data pit locations in the data storage medium disk is reduced, but also the size of the data storage medium disk itself can be further reduced.

It follows that the method of claim 1 does provide a reduction of space occupied by said data pit locations in the data storage medium disk, and eventually of the data storage medium, based on the use of "*nanometer sized particles,* " in combination with "*a calculation of a number of said distinct data pit locations*" "*based on a number of said two or more different colors*".

In addition, Applicants note that Magnitski fails to disclose any reduction of "*a space occupied by said data pit locations in the data storage medium disk*". In fact, Applicants note again that Magnitski recites "[t]he information density is defined by the size of the pits in each page 15."

(see column 3, line 58, through column 4, line 9 of Magnitski). This recitation appears to imply that the larger the pit, the higher the number of colors that can be housed in the pit. It follows that Magnitski teaches an increase in the dimension of the pit to locate a higher number of colors and therefore to increase density by increasing the pit location size.

Therefore, Magnitski teaches a feature (an increase of pit dimension) which is completely opposite to "*a calculation of a number of said distinct data pit locations" "based on a number of said two or more different colors*" "*to reduce a space occupied by said data pit locations in the data storage medium disk*".

2.5) The Examiner further states that "Applicant's next arguments (2.4) are similar and similarly not persuasive. Applicant next argues (section 3) that the dependent claims are allowable due to the supposed allowability of the independent claims. Since the arguments with respect to those claims were not found to be persuasive, this argument is not either. Applicant next argues (section 4) that new claims 21 -22 are allowable. This is similar to the earlier argument about the number of distinct data pit locations."

Applicants respectfully disagree for the reasons already explained above.

2.6) In relation to the Glushko and Bawendi references mentioned by the Examiner, Applicants confirm the arguments already presented in the previously filed Applicants' response of June 15, 2011. In addition, Applicants note that neither Glushko nor Bawendi is faced with the problem of reducing a space occupied by said data pit locations in the data storage medium disk and to provide a "*a calculation of a number of said distinct data pit locations" " based on a number of said two or more different colors*."

2.7) In view of the above arguments, Applicants respectfully submit that independent claim 1 is patentable over Magnitski in view of Glushko and further in view of Bawendi. Similar arguments apply to independent claim 20 and thus claim 20 is also submitted to be patentable over Magnitski in view of Glushko and further in view of Bawendi.

3. Dependent claims

As to dependent claims 3-6 and 10-11, 14, and 18-19, 21-22, Applicants have already shown above that the prior art references neither anticipate nor render obvious amended claim 1. Therefore, Applicants submit that the dependent claims are patentable over Magnitski in view of Glushko and further in view of Bawendi.

3.1) In addition, Applicants note that in relation to claim 21-22, the Examiner further states that "*Although the references do not explicitly show the claimed formulas, these formulas are just the data density given the number of colors and shades, and the result is inherent to the references. Furthermore, Magnitski gives a specific example that matches the result of the claimed formulas.*"

Applicants respectfully disagree with this Examiner's opinion, because the fact that a specific example matches the result of a claimed formula, it does not mean that "*a calculation*" based on said formula has been applied.

4. New claims

As to new claims 23-24, Applicants submit that such new claims 23-24 depend directly from claim 1 and, for at least that reason, they are patentable over Magnitski in view of Glushko and further in view of Bawendi. In addition, Applicants submit that neither Magnitski nor Bawendi appear to disclose that "*the nanometer sized particles of a single pit locations are simultaneously illuminated by a single laser source within a focused spot size*" (claim 23) and that "*the different colors of each bead of nanometer sized particles are spectrally separated before reaching a detector*" (claim 24). In particular, Applicants submit that Bawendi only discloses the use of monochromators.

5. Conclusion

In view of the reasoning provided in sections 2-4 above, reconsideration and allowance of all the claims are respectfully requested.

6. Fees

RCE fee is being paid concurrently with the filing of this paper. The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 50-4194. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection herewith may be charged to deposit account no. 50-4194. Please ensure that the Attorney Docket Number is referred to when charging any payments or crediting any overpayments for this case.

I hereby certify that this correspondence is being electronically filed on
October 19, 2011 by Sharon Whisler

/Sharon Whisler/

Respectfully submitted,

/Alessandro Steinfl Reg. No. 56,448/

Alessandro Steinfl
Attorney For Applicants
Reg. No. 56,448

STEINFL & BRUNO LLP
301 N Lake Ave Ste 810
Pasadena, CA 91101
(626) 792-0536 voice
(626) 792-1342 facsimile